



Online Information

www.heule.com/en/products/deburring-tools/cofa-x

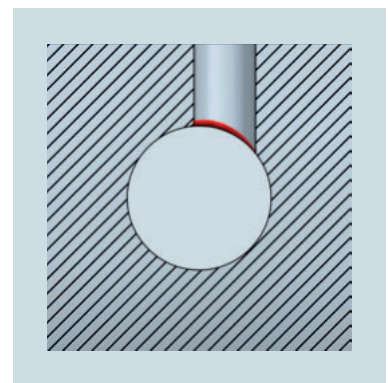
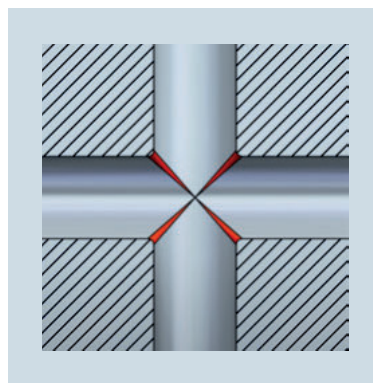
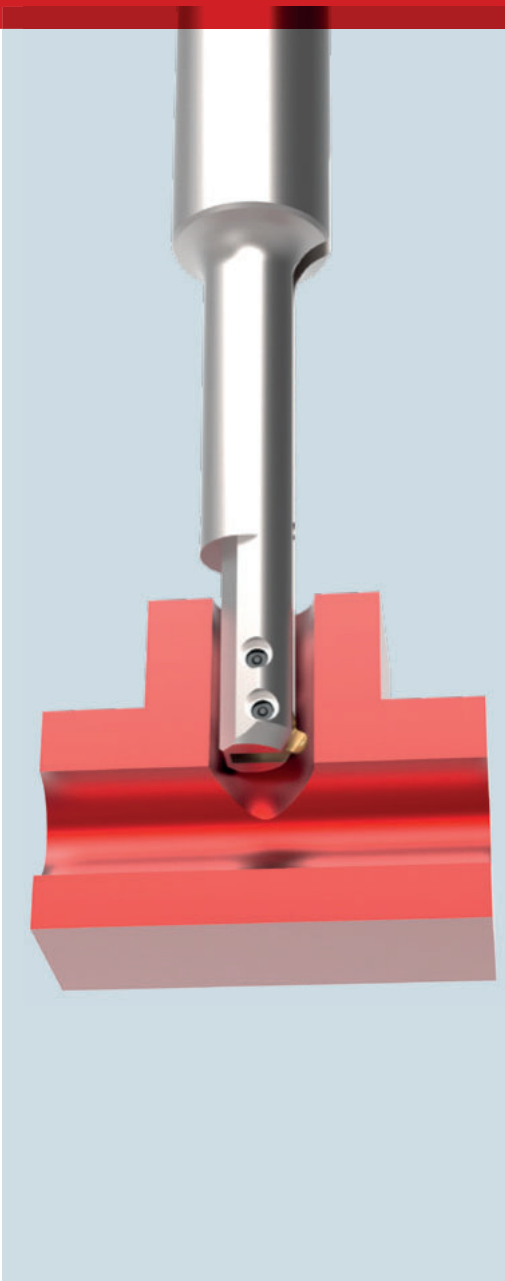


COFA-X



COFA-X

The mechanical deburring tool for cross bores with a diameter ratio of 1:1.



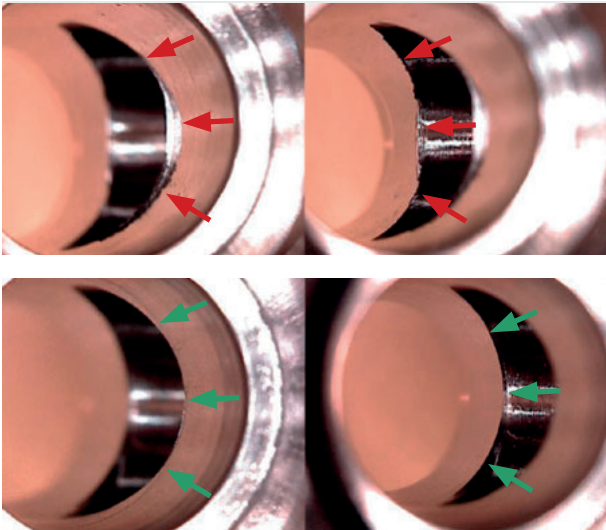


Image 1: Top row: Before deburring. Bottom row: After deburring. The bore edge is clean and completely free of burrs.

Cross bores with almost identical diameters show a very high unevenness. With the new COFA-X technology, it is possible to mechanically remove the burrs completely from these uneven surfaces in an automated process.

As a solution provider, we are making use of today's machine capabilities and combining them with a new tool, the COFA-X system, to solve the challenge of removing burrs from uneven surfaces.

The defined cutting process using a carbide blade is responsible for a complete edge break. In other words the edge is burr-free.

Function Principle and Possible Applications

Tool function

COFA-X is the first and only tooling system that removes the burrs from interior uneven bore edges in applications with large intersections. It works reliably in NC-operated applications. Its simple and mechanically-controlled function principle increases the process reliability and reduces your process costs remarkably at the same time.

The COFA-X application range starts with bore diameters of Ø5.0 mm and larger. In all cases, COFA-X tools are designed individually according to the customers' needs through a complete application description. With the right tool in place, the machining process using COFA-X does not allow any secondary burrs at all.

Each specific tool machines one diameter only. The machine requirements also play an important role for the reliable NC operation. The tool has to be entered into the bore with an offset (see image 2).

Blade function

The blades possess special geometries. They are designed either for front or back cutting only. In addition, the blades are pre-loaded by the spring. Accordingly, the blade position is different.



Image 4: Front cutting



Bild 5: Back cutting

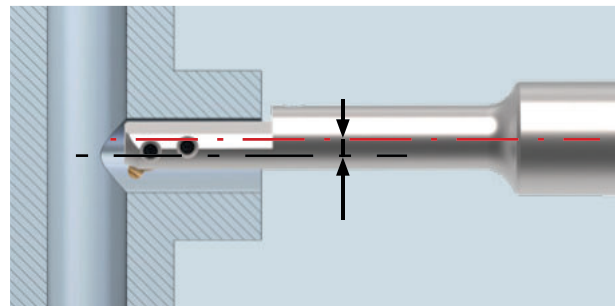


Image 2: The deburring tool accesses the T piece via the cross bore.

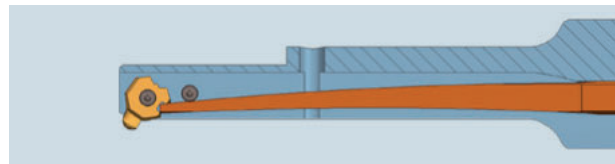
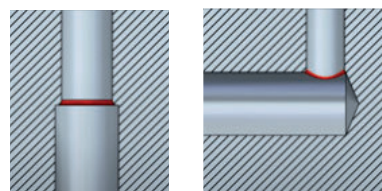
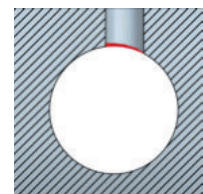
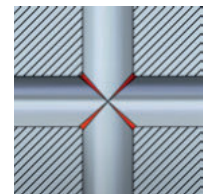


Image 3: The preloaded spring and the shaft with a recess enable the tool to deburr bores with a high degree of unevenness.

Scope of application

- Intersecting bores up to a main bore - cross bore ratio of 1:1.
- Crossing bores with center axis offset.
- Bores with interfering edges that shield the surface (bore edge) to be deburred indirectly.



In comparison with the standard COFA system, COFA-X possesses a pre-loaded blade and the tip of the tool body shows a recess. This recess is necessary in order to enter the bore with an offset so that the blade does not suffer.

The tool itself is characterized by its simple setup. The exchangeable spring is held safely in the tool body by two split pins. It controls the movement of the blade and resets it to the initial position after machining.

The multiple use of blade and spring within a series is given. Only the tool body has to be selected according to the bore diameter.

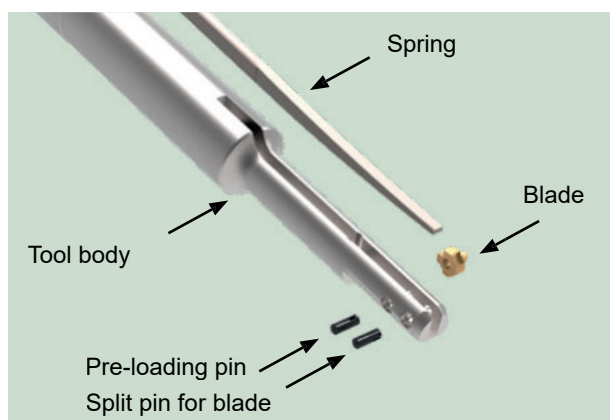
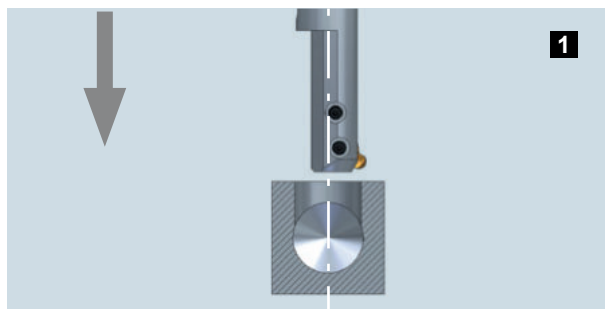


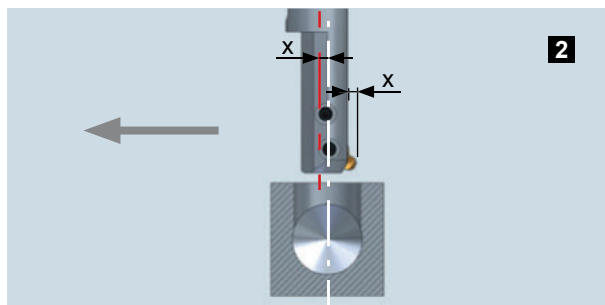
Image 4: To change the blade only remove the front split pin and swivel it out of the spring.

Information / data required by HEULE to examine the feasibility of your application.

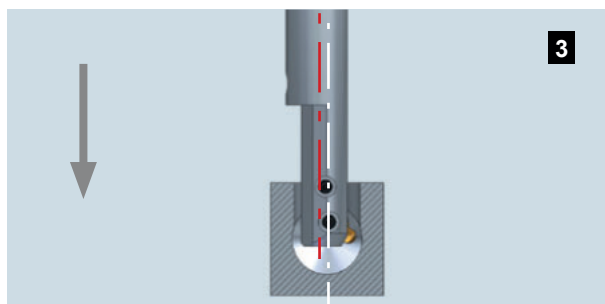
- Main bore-Ø including tolerance
- Cross bore-Ø including tolerance
- Bore depth
- Material
- Penetration angle
- Offset
- Production volume per year
- Cycle time
- Machine (NC / others)
- Solution / process today
- Particular requirements
- STEP drawing



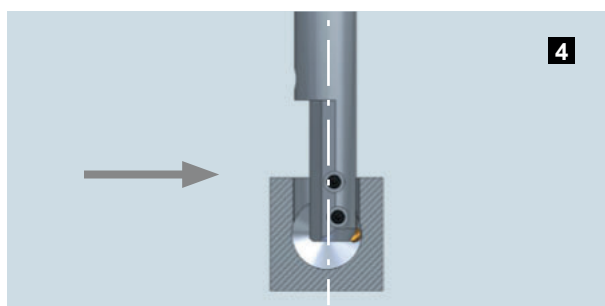
Approach with spindle stopped, orientated and offset 0



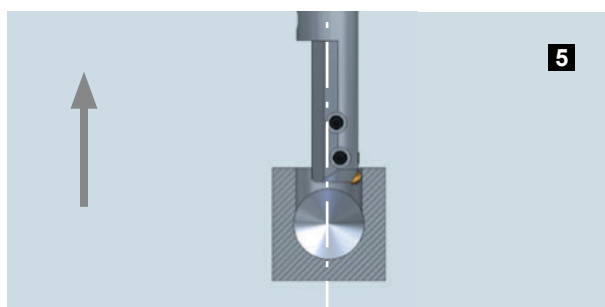
Approach offset dimension x. Value depends on the distance of the blade exceeding the tool body.



Travel down until the blade has fully entered the main bore and is behind the bore edge to be deburred.



Move back to offset dimension 0.



Spindle ON. Execute deburring in working feed backwards.